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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,321	07/31/2003	Charles Edward Bowers	30-4397DIV1	1903
7590 Honeywell International Inc. 15801 Woods Edge Road Colonial Heights, VA 23834			EXAMINER HURLEY, SHAUN R	
			ART UNIT 3765	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
3 MONTHS			03/27/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/631,321	BOWERS, CHARLES EDWARD	
	<b>Examiner</b>	<b>Art Unit</b>	
	Shaun R. Hurley	3765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 November 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 27,28 and 30-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27,28 and 30-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 27, 28, and 30-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Groshens et al (5414984) in view of Tung (5284009).

Groshens teaches an untwisted wrapped singles yarn (Figure 3) capable of being used in a Saxony carpet, comprising a core strand (2) of multifilament polyester (Column 2, lines 55, 57) and a wrapper yarn (3) comprising a continuous filament yarn (Column 2, lines 66-67) comprising a base synthetic fiber material and a heat activated binder fiber blended therein (Column 2, lines 61-65). While Groshens essentially teaches the invention as described, he fails to specifically teach an at least 20°C lower melting point, which Tung teaches as well known (Abstract). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to utilize such a temperature difference between the base fibers and the binder fibers as taught by Tung, so as to ensure the stability of the yarn. When heat activated, binder fibers melt and bind the yarn together. If the melting point of the base fibers is too close to that of the binder fibers, then they will both melt together and create a very coarse single rod structure which is useless for further production. The ordinarily skilled artisan would obviously have understood this temperature difference and known to use such. Likewise, a weight percentage of 25-75%, as taught by Tung, would have been obvious to ensure proper binding

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without becoming too coarse. In regards to the material of the wrapper base fibers, Groshens already teaches the core can be polyester, so it would be obvious to make the wrapper yarn of the same material.

In regards to the myriad deniers, wrap counts, Applicant provides no criticality as to why these are patentably unobvious, and as a result they would have been obvious to one of ordinary skill in the art. Denier is a well known and understood property of yarns, dependent on the end use of the yarn, and the ordinarily skilled artisan would be capable of deciding the proper denier based on end use. For carpet use, deniers of 1000-3000 are obviously used, and given the structure as taught by Groshens, would have been compatible. Likewise wraps per inch are well known, and would have been obvious, so as to cover the core yarn to a desired degree, all within the ordinarily artisan's abilities.

### ***Response to Arguments***

3. Applicant's arguments filed 15 November 2006 have been fully considered but they are not persuasive.

In regards to Applicant's arguments that Groshens fails to teach an at least 20°C lower melting point, Examiner specifically stated such was well known in the art. Since Applicant has requested this be shown by his questioning of what is and is not obvious, Examiner has provided a piece of prior art, Tung et al, which shows that binder fibers are well known in the ratios and temperature ranges as claimed by Applicant. Further still, they are shown as well known in the Saxony yarn art. Examiner also takes issue with Applicant's comparison of "great rigidity" and Examiner's argument against a solid rod of polymer. Groshens would NOT want a solid rod of

polymer, otherwise, he would just have used a solid rod, and saved the production costs incurred by his inventive process.

On page 1 of Applicant's arguments, he states "[t]he newly applied reference of Groshens et al. was not cited as a relevant reference by the Examiner during that prosecution and equally does not apply to the presently claimed invention". Respectfully Applicant is reminded that Examiner can discover and make of record pertinent and/or applicable prior art at any point during the prosecution of an application.

In regards to Applicant's numerous arguments of non-analogous art in regards to Groshens not specifically using the word "Saxony", Examiner's opinion remains that Saxony is intended use. It is held that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim, and Examiner's opinion is that he has more than demonstrated that Groshens is obviously capable of performing the function of a Saxony yarn.

In regards to Applicant's arguments on page 2 that Groshens does not teach the specific core and wrapper yarn as required, Examiner respectfully disagrees. Groshens teaches that optionally friction spinning may be utilized to apply cladding fibers, either a first or second application. And while it is very probable the core is already bulked, such a friction spinning would absolutely provide a bulk to the core filament yarn if it were not so previously. In regards to the wrapper not being a spun staple yarn, Groshens states in column 2, lines 66-67 that the

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cladding fibers can be in thread form. The only way the fibers will be in thread form is for them to be twisted together.

***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shaun R. Hurley whose telephone number is (571) 272-4986. The examiner can normally be reached on Mon - Fri, 8:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Welch can be reached on (571) 272-4996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Shaun R Hurley  
Primary Examiner  
Art Unit 3765

SRH

17 March 2007